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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,605	11/26/2003	Pavle Sedic	21676-07442	7899
758	7590	10/03/2006	EXAMINER	
FENWICK & WEST LLP SILICON VALLEY CENTER 801 CALIFORNIA STREET MOUNTAIN VIEW, CA 94041			BELLO, AGUSTIN	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/723,605	Applicant(s) SEDIC, PAVLE	
	Examiner Agustin Bello	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/21/04</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-18, 20-27, and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams (U.S. Patent No. 5,864,416).

Regarding claims 1, 15, 23, and 25, Williams teaches an optical communication system having adjustable operational settings to accommodate a plurality of modes of operation, the system comprising: a controller (reference numeral 100 in Figure 1) adapted to communicate an indicator signal (reference numeral 43 in Figure 1) based on a selected mode of operation; and a transimpedance amplifier (reference numeral 20 in Figure 1) having at least one adjustable operational setting, the transimpedance amplifier in communication with the controller for receiving the indicator signal (reference numeral 22 in Figure 1) and configured to adjust the at least one adjustable operational setting based on the indicator signal (column 1 lines 63-65).

Regarding claims 2 and 16, Williams teaches that the transimpedance amplifier comprises: a mode detection module (reference numeral 42 in Figure 1) adapted to receive the indicator signal and determine a mode of operation based on the indicator signal; and a settings control module (reference numeral 45-47 in Figure 1) in communication with the mode detection module, the settings control module coupled to the transimpedance amplifier circuit (reference numeral 22 in Figure 1) for adjusting at least one of the adjustable components based on the determined mode of operation.

Regarding claims 3 and 27, Williams teaches that the mode detection module determines the mode of operation by comparing the indicator signal to one or more reference voltages (reference numeral 49 in Figure 1).

Regarding claim 4, Williams teaches that the mode detection module receives the indicator signal during a non-operational period of the transimpedance amplifier (“calibration phase” of column 2 lines 9-14).

Regarding claims 5 and 17, Williams teaches that the indicator signal is a digital signal (reference numeral 43 in Figure 1), and the mode detection module includes digital circuitry (reference numeral 42 in Figure 1) for determining the mode of operation.

Regarding claim 6, Williams teaches that the mode detection module determines the mode of operation by demodulating (reference numeral 42, 45-47 in Figure 1) the indicator signal from a voltage input (reference numeral 43 in Figure 1) received from an external source (reference numeral 100 in Figure 1).

Regarding claim 7, Williams teaches that the mode detection module comprises means (reference numeral 42, 45-47 in Figure 1) for detecting the mode of operation based on the indicator signal.

Regarding claim 8, Williams teaches that the controller is configured to receive information (reference numeral 26, 53 in Figure 1) related to the mode of operation for the transimpedance amplifier, the controller including an indicator generator for generating the indicator signal based on the mode of operation (inherent).

Regarding claim 9, Williams teaches that the controller further includes a digital to analog converter (reference numeral 42 in Figure 1) for generating an analog indicator signal.

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Regarding claims 10, 18, and 26, Williams teaches that the transimpedance amplifier includes a bias voltage interface (reference numeral 22 in Figure 1) for receiving a bias voltage, the controller communicating the indicator signal to the transimpedance amplifier as a bias voltage through the bias voltage interface.

Regarding claim 11, Williams teaches that the indicator signal is within a permissible range of bias voltages for the transimpedance amplifier (inherent), the mode detection module determining the mode of operation by comparing the indicator signal to one or more reference voltages (reference numeral 49 in Figure 1).

Regarding claims 12, 20, and 30, Williams teaches that at least one adjustable operational setting is transimpedance gain (column 1 lines 12-18).

Regarding claims 13, 21, and 31, Williams teaches that the at least one adjustable operational setting is bandwidth (column 1 lines 12-18).

Regarding claims 14, 22, 24, and 32, Williams teaches that at least one adjustable operational setting is selected from a group consisting of: DC offset, signal rise time, signal fall time, power consumption, and output impedance (inherent property of the variable TIA of Williams).

Regarding claim 29, Williams teaches that the mode of operation is associated with a data rate (reference numeral 53 in Figure 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Umeda (U.S. Patent No. 6,684,032).

Regarding claim 19, Williams differs from the claimed invention in that Williams fails to specifically teach that the bias voltage interface provides the transimpedance amplifier circuit with a diode bias voltage for the receive diode. However, Umeda teaches a bias voltage interface that provides the transimpedance amplifier circuit with a diode bias voltage for the receive diode (reference numeral 32 in Figure 2). One skilled in the art would have been motivated to include a bias voltage interface that provides the transimpedance amplifier circuit with a diode bias voltage for the receive diode as taught by Umeda in order to reduce the number of bias sources required, and thereby reducing cost and complexity of the circuit. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include a bias voltage interface that provides the transimpedance amplifier circuit with a diode bias voltage for the receive diode as taught by Umeda in the circuit of Williams.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Feliz (U.S. Patent No. 5,606,277).

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Regarding claim 28, Williams differs from the claimed invention in that Williams fails to specifically teach that the mode of operation is associated with a selected protocol. However, Feliz, in the same field of optical receivers, teaches that is well known in the art to operate a variable TIA receiver based on a selected protocol (column 5 lines 44-56). One skilled in the art would have been motivated to do so in order to allow the receiver to operate with a variety of protocols (column 5 lines 5-16 of Feliz). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to select the mode of operation of Williams circuit based on an associated a protocol as taught by Feliz.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'A. Bello'. The signature is fluid and cursive, with a large initial 'A' and a stylized 'Bello'.

Agustin Bello
Primary Examiner
Art Unit 2613

AB